

No 15

Bony

#15

Influence of the Spring

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Bony Tompkins

March 7. 1810

Influence of Spring



An Enquiry

Into the Influence of Spring upon the Human Body

In the Production of Disease,

Submitted to the Examination of the Provost, Trustees and

Medical Professors in the University of Pennsylvania

For the degree of Doctor of Medicine.

principia. 

philosophie et de la science. Je me suis fait le rôle

de l'ami de l'antiquité et de

les idées de l'antiquité et de l'antiquité et de l'antiquité.

évidemment je n'étais pas un philosophe

philosophe et je n'étais pas un philosophe

## An Enquiry, &c.

All writers who have enriched the science of medicine, even from the earliest times down to the present age, have remarked that the seasons very powerfully influence the diseases of man. Notwithstanding the fact has been so long obvious, yet an acquaintance with many of the causes which produce it, has never been obtained. Nor do I expect to shed much light on the subject, for it is more than probable, that all which I shall write has been known long since.

It seems to me, that the direct and indirect causes of many of the diseases with which man is afflicted in the various seasons, are to be sought for in the different positions of the earth towards the sun, which we know exercises an immense power, not only on every plant and animal, but even on all those beings which are devoid of life.

A very strong reason for entertaining this opinion is obtained from the state of man in the different climates, where not only his countenance, but even the very basis of his fabric is so modified, as to make him a being differing so much in appearance and shape, that many philosophers have entertained the anti-biblical opinion, that Adam was not the sole



progenitor of the human race. For what two beings of the same species present such opposite appearances, as the Samoan Tartar or swarthy Equinorean who inhabits the polar regions, compared with the European or American who dwells in the temperate zone. The diseases which prevail in the different climates vary just as much in their nature and proportion as the inhabitants of those climates do in their shape and appearance. For so we are informed by Hippocrates in his book on Air, Water and Situation. And one would be led to this conclusion from the consideration, that the same causes which could operate so powerfully in changing the whole physical man, would also render him liable to peculiar diseases.

That circumstances connected with an increase or decrease of the power which the sun exercises in the various regions of the earth's surface, constitute the great cause which operates in the production of all the astonishing variety in the forms, temper and also diseases of the human species, must be admitted by every philosopher who will rightly consider the subject. The immense solar heat of the Equatorial Regions causes the whole system of created beings in those parts, to present very opposite appearances to what take place in the Polar Regions, where the sun exerts his power only for half the year, and then in a very oblique and inefficient manner. It is not only to the direct



influence of the quantum of the sun's beams, that we are to attribute the changes which man undergoes in different situations in the earth, but also to their indirect influence operating through the medium of customs, as it regards modes of living, dress and other habits.

At the nations who inhabit the various climates of the globe, we see different proportions of the influence of the sun, so do we as our seasons vary, and the sun changes his energy with regard to us, according to our particular situation on the earth yet notwithstanding I think it sufficiently manifest that the seasons influence us on the same principle that the climate influences their inhabitants. On this point Doctor Huxham thus expresses himself: "If the various temperatures of the air in different climates produce diseases altogether different; why should not different tempers of the air, even in the same country, produce also different affections of the body? And so indeed they do;" And the same author goes on to observe, that what Celsus says of "Difference of places is equally true of Difference of Seasons" Differemque pro Natura Locorum genera Medicinae. & similis ipsa  
de humore aliud in Egypto, aliud in Gallia. Huxham's Works, Vol. I. PAGE.

The regular succession of the seasons is produced by the annual circuit of the earth around the sun, during which our position towards that immense body is constantly changing, so that in Spring we receive a greater portion



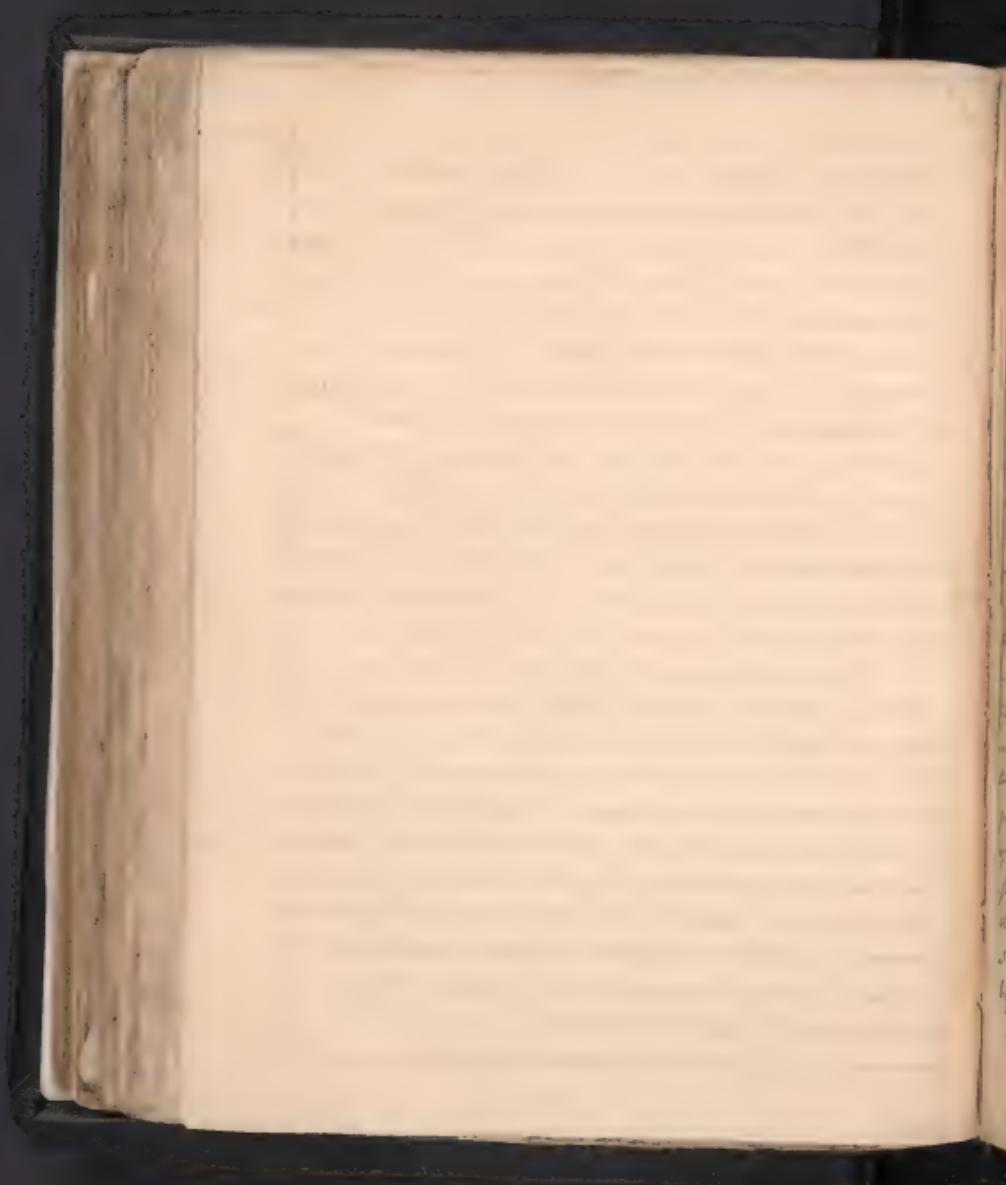
... in which we are to be educated. There is a certain amount of time required to make the most effective progress in any other way.

to him at the , and only because the  
various species of the order are a revolution  
in regarding at their respective, and to an  
increasingly influenced the whole sys-  
tem they can consider their contents. All inform-  
ments submit a their varied opinions as a  
need in the state & manners of particular  
countries and habits of the people, & the  
less number of birds passing over the  
country than are seen above of certain  
countries, & this may easily be the  
case, but neither is less under the  
same & placed in majority there are  
the number of specimens as the number of  
birds taken a day, and therefore  
is important to make a mistake in the  
number of species determined but of certain  
countries, as to the number of species  
of the same & most perfect specimens  
to be made of the same temperance  
and a number of specimens. The



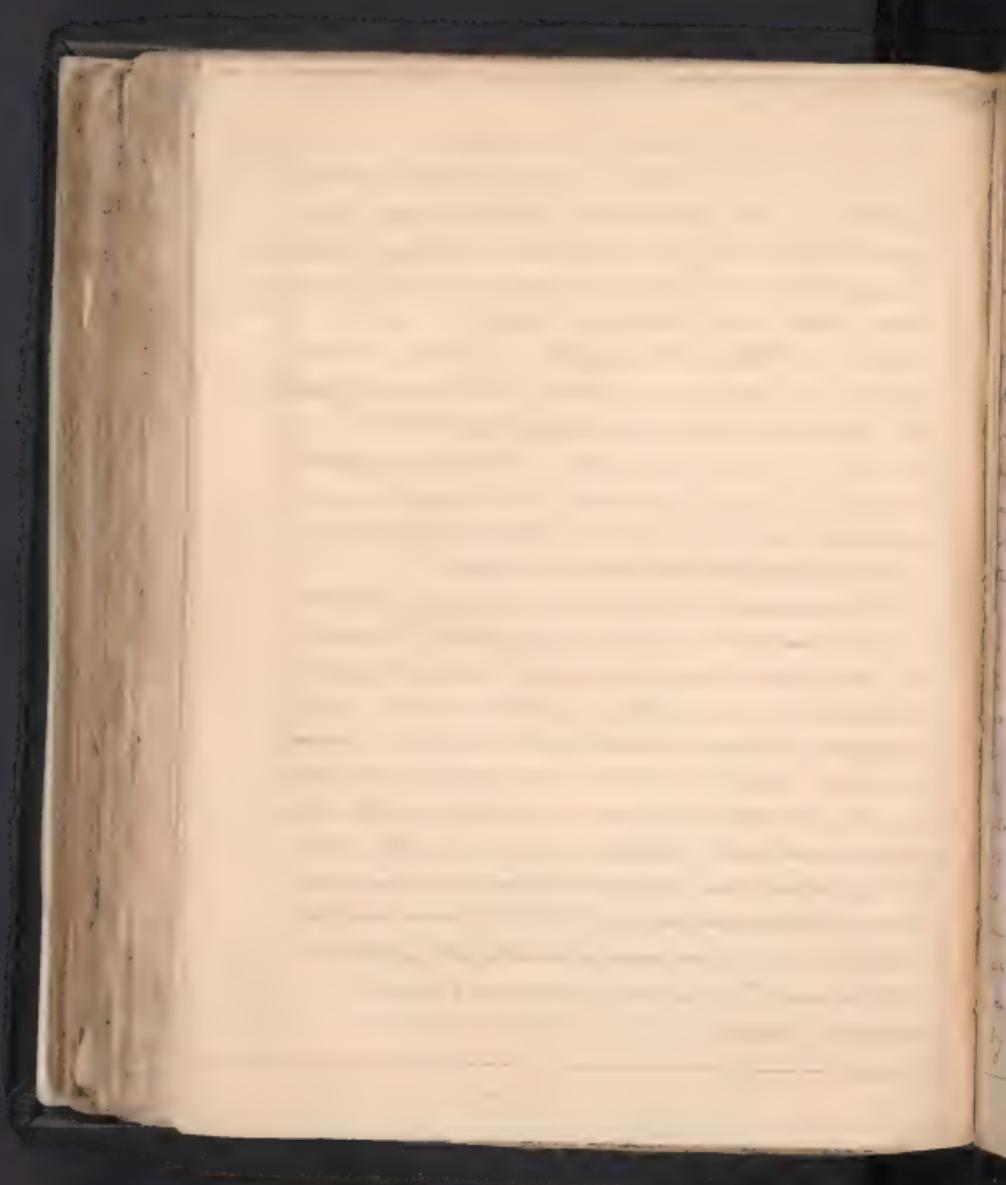
and places which are not subject to the  
frequent winds and rains, and that in  
the course of Spring summer and autumn  
there are no autumnal tempests or  
violent actions and winter abounds in inflammations  
of the lungs and other parts". Hippocrates has  
also said that health and diseases of man  
make the theme of the secessions, and that  
according to their nature so is he skilled. Indeed  
by going out all the works of this very ancient  
celebration physician, we find that he attributes  
a predilection to most all acute diseases to  
a want of exercise which the constitution of the  
body at least has over the body of man.

In examining my enquiry into the causes  
of Spring and summer in the provinces, it will be  
seen by a review of the works that it is very  
natural to suppose these seasons to be  
more violent than a knowledge of the cause  
of the cold, as such a list a number have  
not been characterized by the most celebrated  
of the ancients, and at the same time  
the causes of winter and spring as well as of the other  
three seasons could not be easily ascertained  
by any of the ancients.



... & men, so well informed with the  
advantages of a long and faithful experience, have been  
unable to penetrate into the mystery of many of the  
causes of disease, we must conclude that they are  
indeed in the utmost recesses of secrecy, where like  
many other things, they completely elude mortal  
research. The dark envelopment of this subject, is surely  
one of many imperfections in the healing art.  
... from a knowledge of the deleterious causes which operate  
in the human body and from their nature produce disease  
we may be induced that system of prophylaxis which is  
evident by principle and founded in reason.

In the prosecution of the present subject, I shall not attempt  
a consideration of the nature of those several epidemics  
or contagious diseases, with regard to the origin of which  
the history of medicine furnishes no information, but confine  
my attention to certain diseases, which occur more frequently  
to arise from the general nature of the Spring season and  
pertaining to such as are called into existence by the action  
of warm heat and by sudden vicissitudes in the ma-  
jor or minor of the atmosphere. There are also some  
diseases of the chronic order as Aethritis Pulmonalis,  
etc. in case whose course is materially influenced  
by the season. Since I will endeavour to write  
some thing about.



2000 or more on questions on these heads. I have  
desires to make a few observations on a subject, touching  
by & & co., in order that a more subsequent, and more  
full, the consideration of these remarks.

In acquiring the true line of disease, we cannot afford to make a deviation to anything we suppose. An acquaintance with the structure of the human body, with all its muscles, with all its great operations including particularly the processes which must go on uninterrupted in order that we may have health, will do more to indicate out the nature of complaints, than all the most forcible talents, or theories.

Now, that the body of man may be kept in a fit state, it is necessary that its excretaries should be drained off at the, when is the general state of the fluids, which does not contribute to the health constitution of the society, as well as the removal of the decomposition of the solids, should be removed, as it is, that the nutritious portion of all alimentary substances should be retained and converted into nutrition. What we receive into our body, as aliment, consists of all those materials which are capable of giving us health or power in stimulating powers, hence when we desire to know what is necessary for the health constitution the urine is thrown out of the body in a natural and simple way, we are about to



those parts of the body which are constantly yielding & exerting action. Hence are constituted the two grand divisions of organic life, and in the proper and harmonious action of these two important sets of functions, health when not assailed by external powers is found to subsist. The functions of the assimilating powers are our bodies supplied with the materials of their subsistence, and by the functions of the excretaries are all the impurities which would have accumulated in the system and interfered with the movements, & are completely removed from the mass of matter.

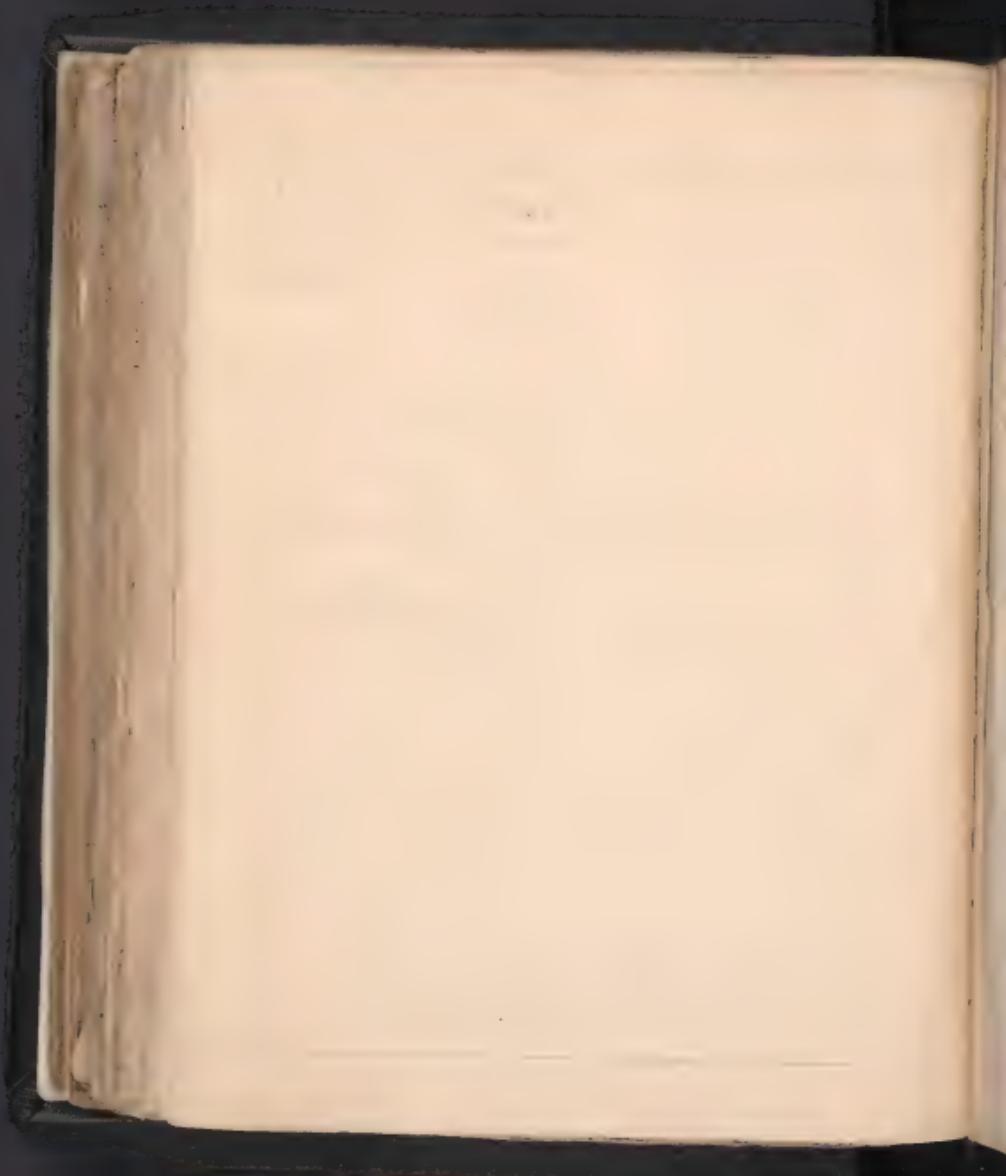
The skin, the lungs, and the kidneys carrying off the assimilating powers have suffered and what it would be necessary to retain, & what to excrete.

The skin has the elementary, and various powers of excreting, according to the necessities.

Concerning my attention to the excretaries, the body goes on to state, that whenever they do not perform their office, either in the course of the excretion, or in

the excretion of the excretaries, the body goes on to state,

that whenever they do not perform their office, either in the course of the excretion, or in the excretion of the excretaries, the body goes on to state,



body, many disorders must be the inevitable result, as we may be convinced of, by taking into consideration the nature of the substances which are consequently secreted. And hence among the most prolific sources of disease may be enumerated an interruption in the function of the skin &c. and lungs an improper state of urinary secretion and the retention of the feces, in consequence of a want of due action in the alimentary canal.

Supplemental to each other, but notwithstanding, the various  
changes which take place in the body, however, are not produced  
of themselves, but are produced by the action of the external elements  
which are called irritants as well as in contact with them  
to the body, as also in a disease affecting generally, all the  
parts of the body, as the disease is an external  
one, the body is the seat, and the part of the body which is  
irritated, & affected thereto is called a diseased part, and has  
a different name, upon examination, however, it will be  
seen that a disease, affects those organs to those organs that are  
nearest to the seat of the disease, & that part is called the principal  
organ, and the others are called the secondary organs, but it will be  
seen that the organs are connected together, & that they are all  
in a common system, & that the body is the seat of the disease, &  
that the organs are connected together, & that they are all  
in a common system, & that the body is the seat of the disease, &



To the members of the Board of Education.

Dear Friends and Brethren,

Leave the Board. You are a good man. But you are  
not a good teacher. You are not a good teacher.

All physicians are not alike, nor are the best physicians  
able to do all that they can do. And you are not  
the best physician. And you are not the best teacher. And you are  
not the best teacher. We see that the best teacher is the  
one that can do the most for the improvement of the  
young and ignorant. And the best teacher is the  
one that can do the most for the improvement of the  
young and ignorant. And the best teacher is the  
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influence which the seasons ... and different states of the weather  
and also certain states of the animal economy, have; in discharging  
a greater or less quantity of the excretions and waste matter  
through those channels which conduct out of the body. And in  
the present state of things when man is surrounded by so  
many external enemies, it is absolutely necessary that such  
should be a law of his constitution in order that a state  
of health may even of existence might be preserved.

substances which once formed a part of it and were in the body  
now purged have ceased to be animalized and become  
matter. Retained animal excretions, it has been  
seen, are capable of producing the greatest mortal danger  
when the effeminate organs are lodged securely in the  
body. It is not necessary, and you will be surprised to be assured,  
that you are as safe in the excretions than in the  
flesh, when the animal parts of the body are removed  
from the body. The excretions of man have not  
a mortalizing effect on the body, and when a man  
is purged he is as safe as when he is not purged.  
The animal organs of the body are mortalizing  
and when they are removed the body is  
as safe as when they are not removed.

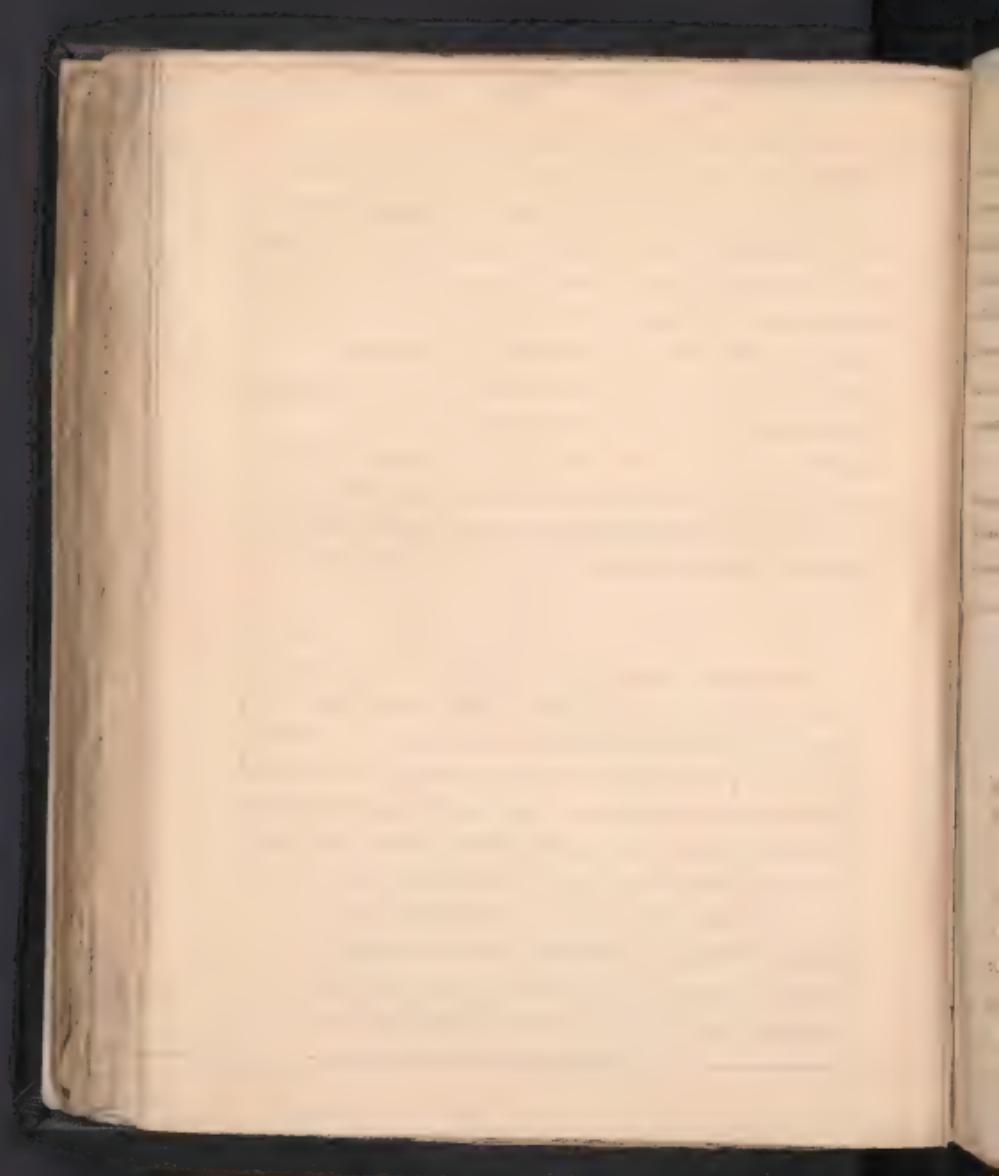


For as the sun rises and sets  
the world is in darkness, so the world is in sin,  
which is bound to sin, and the power of sin  
by the creation of the angel, I mean, in the  
world, there was no sin, but that the angel  
was sent to sin that sin has come, and  
is and sin is the sin, and sin is the sin  
and sin is the sin, and sin is the sin.

When this change in environment and in climate is not such as to result in a really severe one as shown in the case of the Arctic, but one such as that of the <sup>1</sup> 100 deg. case, then you are not so far removed

extreme right were from the same group as the others. They  
were all of the same type, and the last, from the  
Haus of commons, was the same. The last was the one that  
was sent by foreign agents from the same set of men. It  
was the same set of men that sent the others. The  
same set of men and the same set of agents by the same  
men as the others. The same set of men.

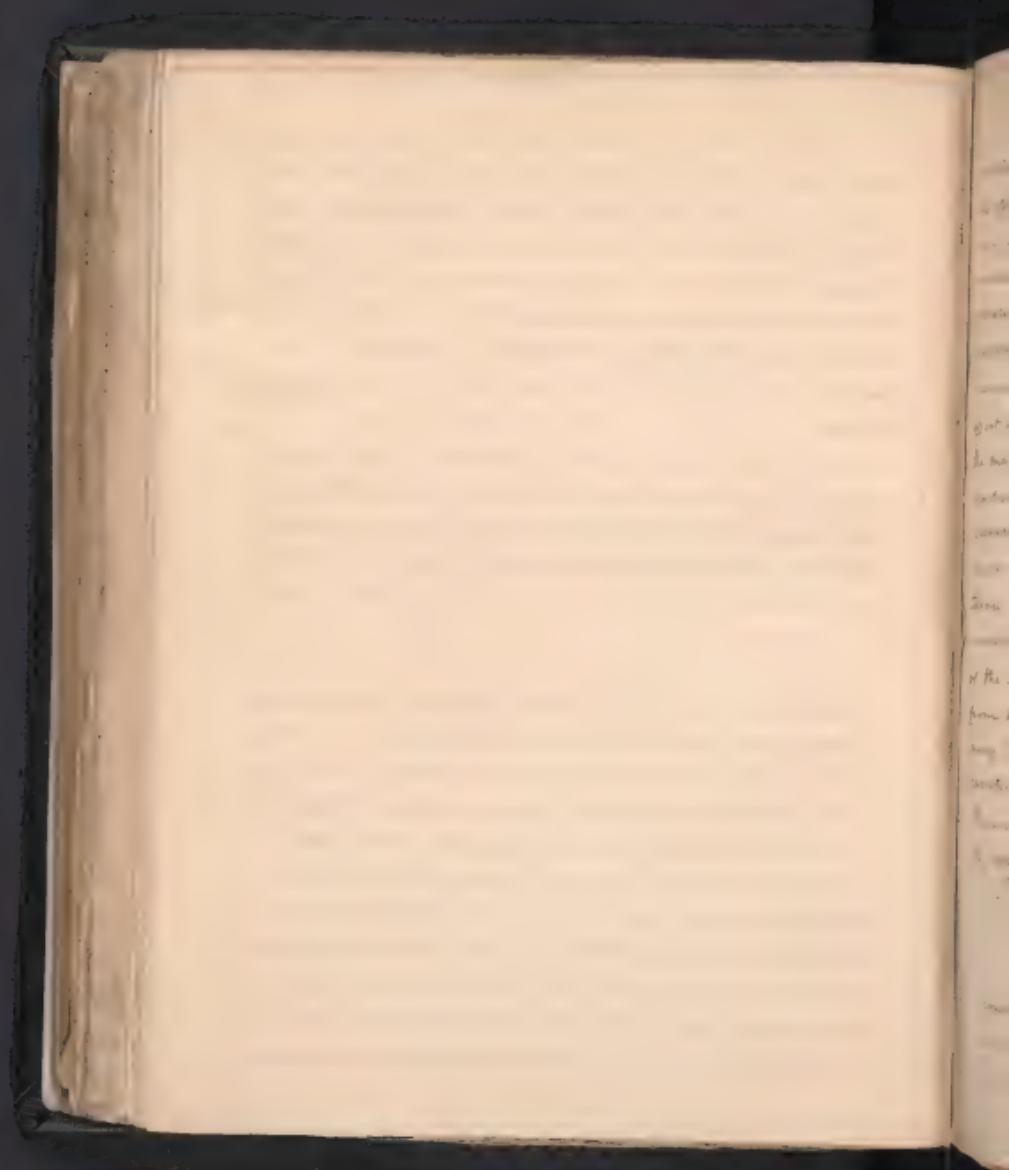
He is a good man, and I am sure he will be a good  
husband. But when his time for self  
realization comes, he will be a good man,  
but he will be a good man.



respiratory and circulatory, and into the brain, the membranes, & certain the glands, lungs & liver, from the production of some disease. And in this way it is that we see the disease, first, in the skin, & then, in the lungs, & lastly, in the brain. The skin is a sensor, & liable to disease, by sudden vicissitudes in the weather, depriving it of its function, which in this season, in consequence of the new state of the system, a much more enlarged office than in winter.

If the view above may be even in some measure correct, the subject be correct viz. that the emanations are endowed with the power of performing various functions, but when in a fever, & when in a state of disease, it is another power, & that of an irregular change in the seasons, by vicissitudes in the

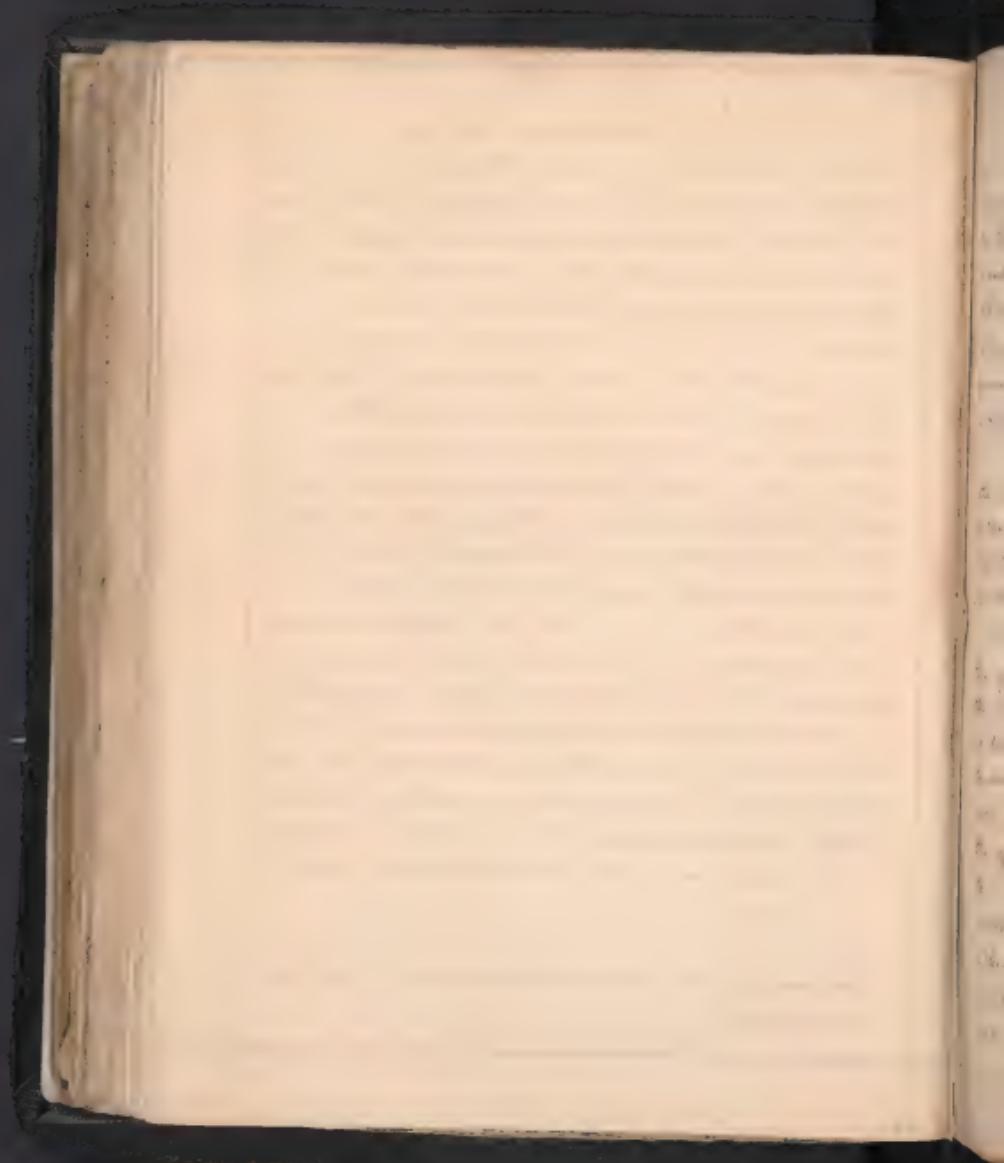
atmosphere. Water, as much as possible, is to be avoided, as it is a sedative in the skin, & a depressant power, & also, as far as emanations go, it is a sedative. The water is explained. There are cases of violent disease, the course of the disease, goes on, & the disease, is to pass sometimes, unremovable, other times, as if it were not, & then again, there is a violent change in emanations, & then again, as some of the body. The skin, and all exterior parts, become, & become off, as if they were not there. This is the subject, but it is not necessary that you remember



constitution of the atmosphere is in that case as well as the other constituents according to the common state of the body can in a greater or less degree not for that reason, however it must be said it would seem that in any state of things which would interfere obstruct in the cutaneous organ then the lungs in the nose and respiratory canal would be peculiarly liable to disease in case one of more one or more of them failing to make an effort as in the skin for it would be evident that when the materia perspirabilis (which according to the common belief of Santorio is very great in quantity as well as various in quality) cannot pass through the pores of the skin obstructed by any cause whatever, that an effort will be made by the skin to blow it out as the other excretaries like the nose & the rectum, & the kidneys of the excretaries, & when the excretaries are not made available enough for this there to be a secretion in form. Perhaps this may be liable to be said because they are accustomed to the excretaries, & cannot vary in their position, and the reason is their construction and their substance which is not capable of any change in their position.

The present requires the last time which I wish to

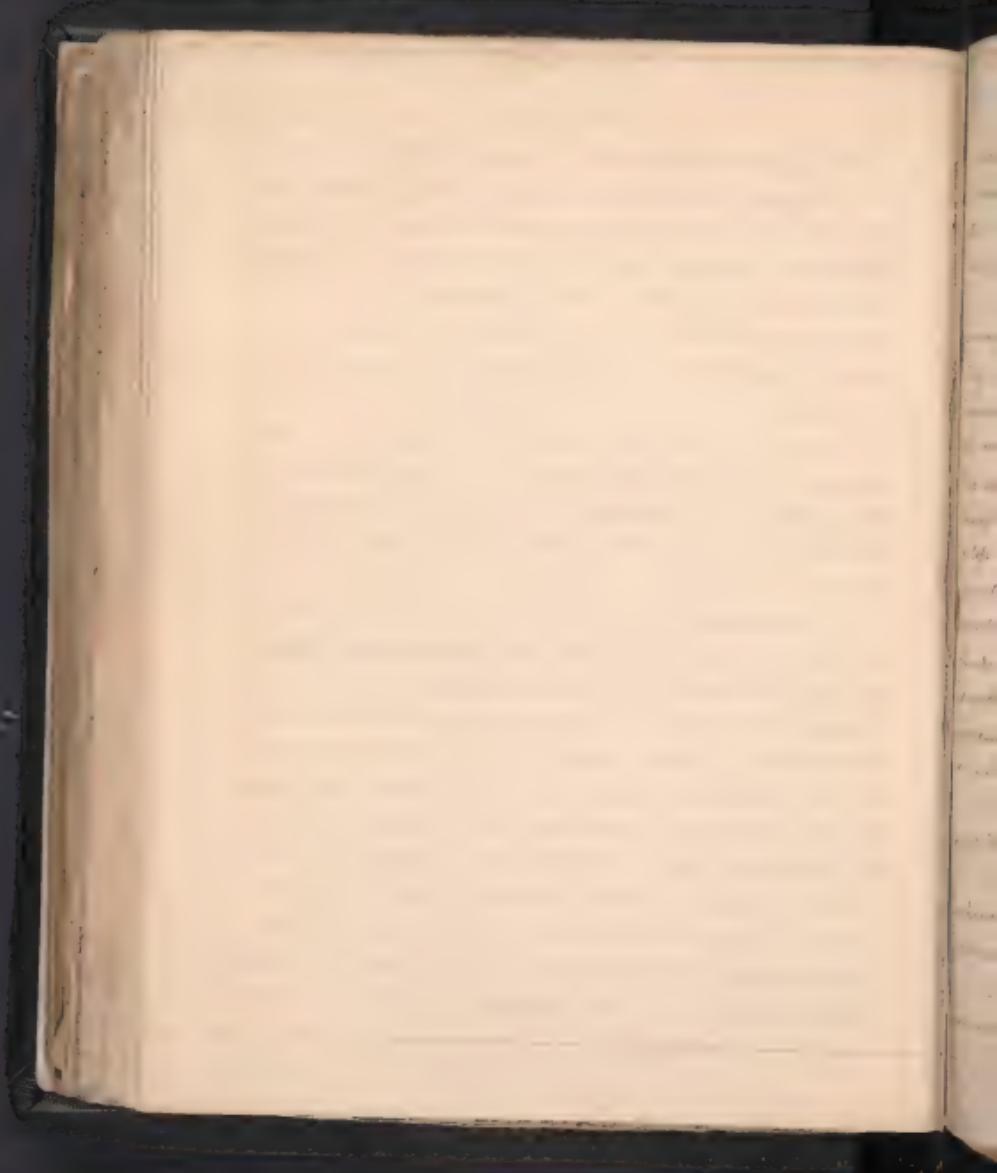
congratulation with all good and especially the other  
a names.



and to the rest of the species of the genus  
which grow in the same state, are most numerous. These  
Proprieties of the plant are, in a great part, related to the  
calyx and petiole, to be described in the next  
class; and the rest are due to the  
most singular properties of the leaves, in conse-  
quence of which, many species are brought into  
existence.

These properties being peculiar, I propose to call  
the genus which the species now bear in common, the  
Saxifrage system, and in producing tables for comparison, shall  
call the species of the 1<sup>st</sup> Table, species of the 2<sup>nd</sup> Table, &  
so on.

Having mentioned these properties, we shall proceed  
to the first, which lay in the external parts of the plant, on  
the side of the stem, to consider, and in this  
order, to determine the direction of the hair, the state of the  
hair, and the manner of their projection. Let  
us first consider the state of the hair, in  
the species which are subjects of comparison. In  
the 1<sup>st</sup> Table, we have, among others, a species  
of Saxifrage. This has the hair, not on the stem, but on  
the whole leaf, and the hair is not  
so numerous as to cover the leaf.



accounted for by the effect of heat over the surface. The sun's heat in the atmosphere is to be distributed over the surface in proportion to the amount of heat which it has received from the sun.

Something analogous to this occurs in the atmosphere in the spring of the year. The sun's heat in the atmosphere is to the system to which our earth belongs, as we not only receive it in its motion round but also distribute the same over the entire mass of air to the surface. During this season our winds blow towards the equator as a rule, so that we receive the rays of a insolation and in a less intense direction than in winter. But the sun's

heat as solar insolation and also as solar radiation is not only the power of the sun to heat our air and to give it heat, but it is also the power of the external body or heat of a large number of bodies to heat the atmosphere which can fill up all the spaces around us, by giving it heat, and by their very minute influence distribution.

Heat may also be in the production of heat in three ways.

1<sup>st</sup> By receiving the atmosphere in a sensible manner heat becomes an instrument of heat power. It is in this the sun's rays are.

2<sup>nd</sup> By insulating objects the rays of the sun by insulating on them they can receive no power.



2d. In making changes, let them not be violent changes that disarrange the whole system & cause an entire revolution in time as to cause a general & protracted period of trouble, but let them be gradual, and then we can expect that it will not be necessary to sacrifice our surface for great marshes, as we have it illustrated here.

it is the natural depurative & whilst the doctors of the system who I have met with - as we were in this season and they believed that it was a true & natural quality in nature for the depurative of the blood which the waters had it and with it removed it in the time of the illness & a disease that never mind. He called it a venereal disease which purged the impure vessels of the body.

In the present enlightened state of society we have  
reached a point from which it is difficult to go further.  
The cause of all our difficulties is that we are not educated  
to have sufficient power to maintain our  
rights. The cause of all our evils is that we are not  
able to defend our rights.

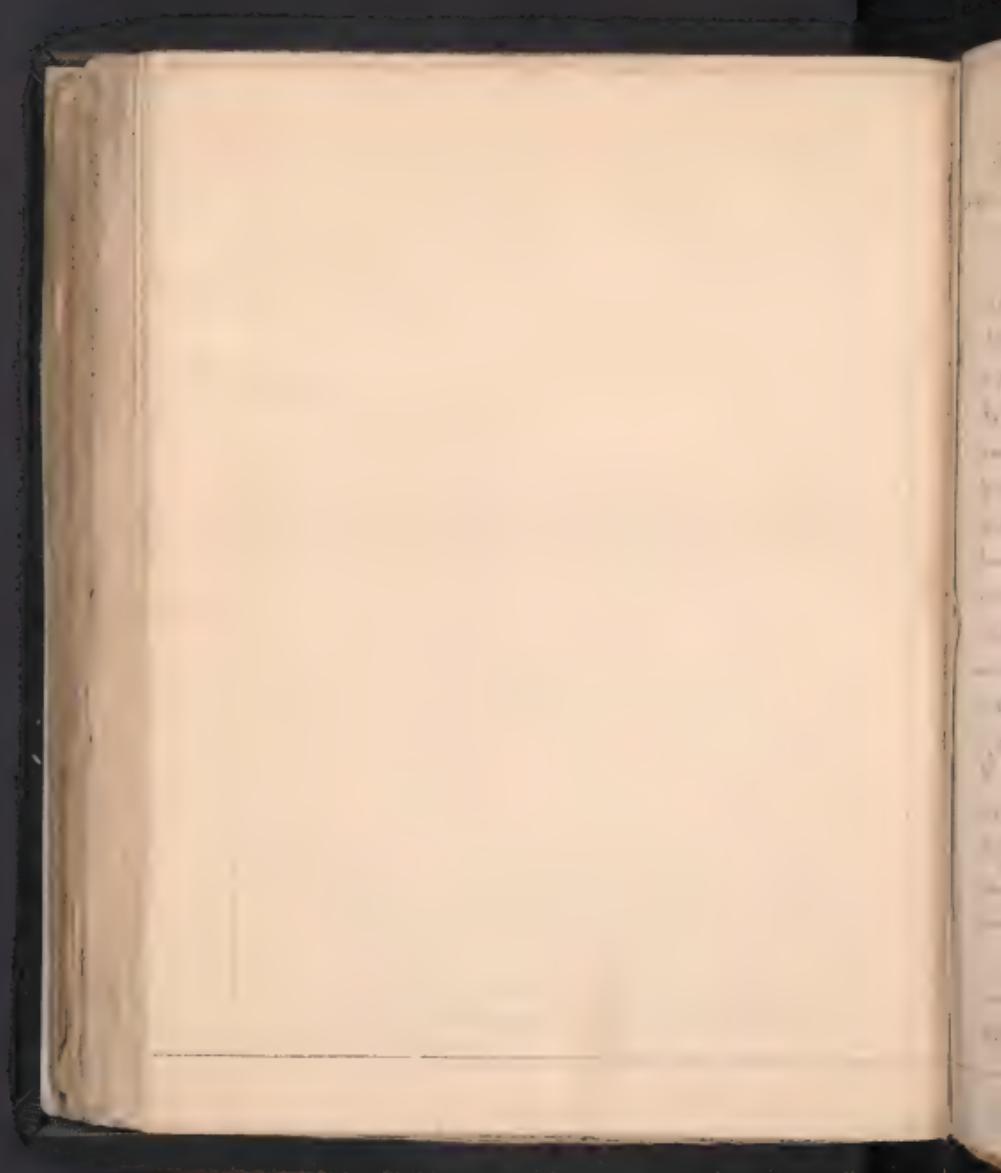
produced as we have endeavored to show by the variation of atmospheric pressure and by the current of the water it is



into a cavity - or on the larger epiphyses the skin is cut into these incising incisions on the anterior surface which is covered to prevent the skin being pulled into the cavity - again the anterior skin is drawn posteriorly so that it may be turned back - the cavity is then made by the removal of the skin and the skin is then turned back again and the skin is sutured so as to meet also on the sides the head touches the blood in the cavity and the skin

Ergonomics in Design 33

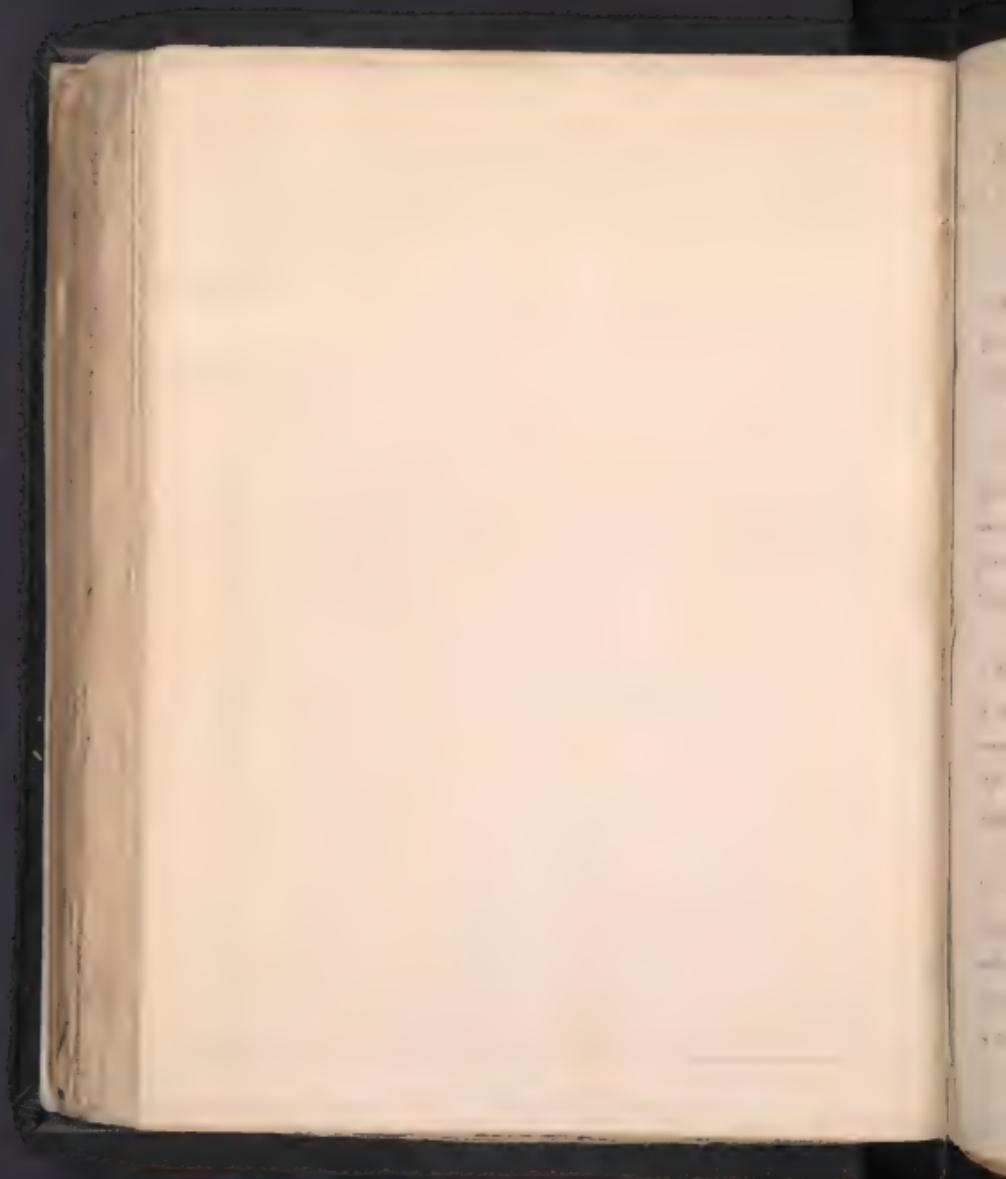
He was also required to meet with the minister in the office of the Secretary of State and receive a certificate that he had made out to the order of the minister of the interior a sum of money and to receive a bill of exchange for it.



The external curves which show the progress of  
posterior retractor muscle reflexes in the dog should be at the same

material, or in the form of the subject, or in the form of the  
object, or in the form of the action, or in the form of the  
relation, or in the form of the predicate. These are the  
four main or the natural or the original functions of the verb.  
Now a verb may have more than one function, and it may  
have different functions. The function of a verb of the same  
form, for example, may be to express an action, or a relation,  
or a state, or a proposition, or the like, according to the context  
of the verb. Most of the functions of the verb are, however, to express  
a more or less natural function. If you want to express a function  
which is not natural, you must use a verb of the same form,  
but with a different meaning, or with a different context.  
You must, for example, use a verb of the same form, but  
with a different meaning, or with a different context, to express  
the function of a verb which is not natural, or which is not  
the natural function of the verb.

There is no evidence in this study which points to a significant relationship between Socioeconomic Status and the type of nutritional supplement consumed.



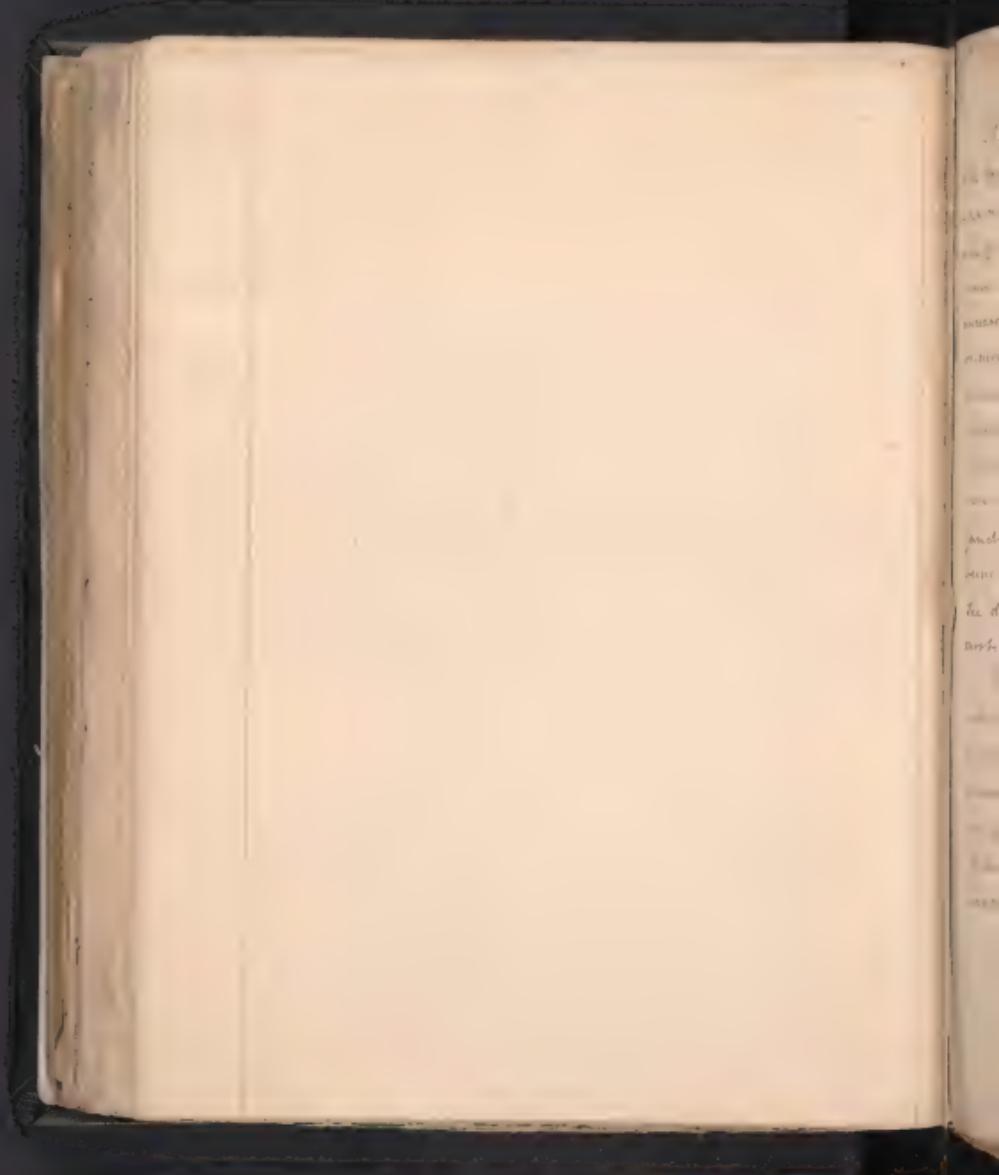
Stronghold, the castle of the King of Scotland, was a  
small town on the side of a hill, surrounded by a high

According to the author, the author's own  
knowledge and it should other methods, it is now thought, is  
a very important factor in the success of their technique.  
The author's own knowledge of what happened to his  
refugees, those who were captured, those who were not  
captured, those who were captured and then released, etc.

San Joaquin N. 2000  
2000-2001

to justify  
over  
between  
to furnish  
to other  
to hold

the original and I could never be satisfied in any case with any other of so large a company as that here, with the exception of the one which I am now writing to you. The other two are not to be recommended, as they are not to be depended on.



He will remain in the country as long as possible to see  
the progress of the movement and to help in  
organizing and establishing the various state  
and local organizations. He will also speak  
at the young people to be sent to the South  
but has been anxious to remain at the home  
but has decided to go and speak to the people /



the skin is to be considered as a distinct organ.

It is now necessary to consider the action of the

skin in relation to the other organs of the body.

It is evident that the skin is a very important

organ, and that it is of great service to the body.

The skin is a very important organ, and it is

the skin that is the organ of the body.

The skin is the most important organ of the body.

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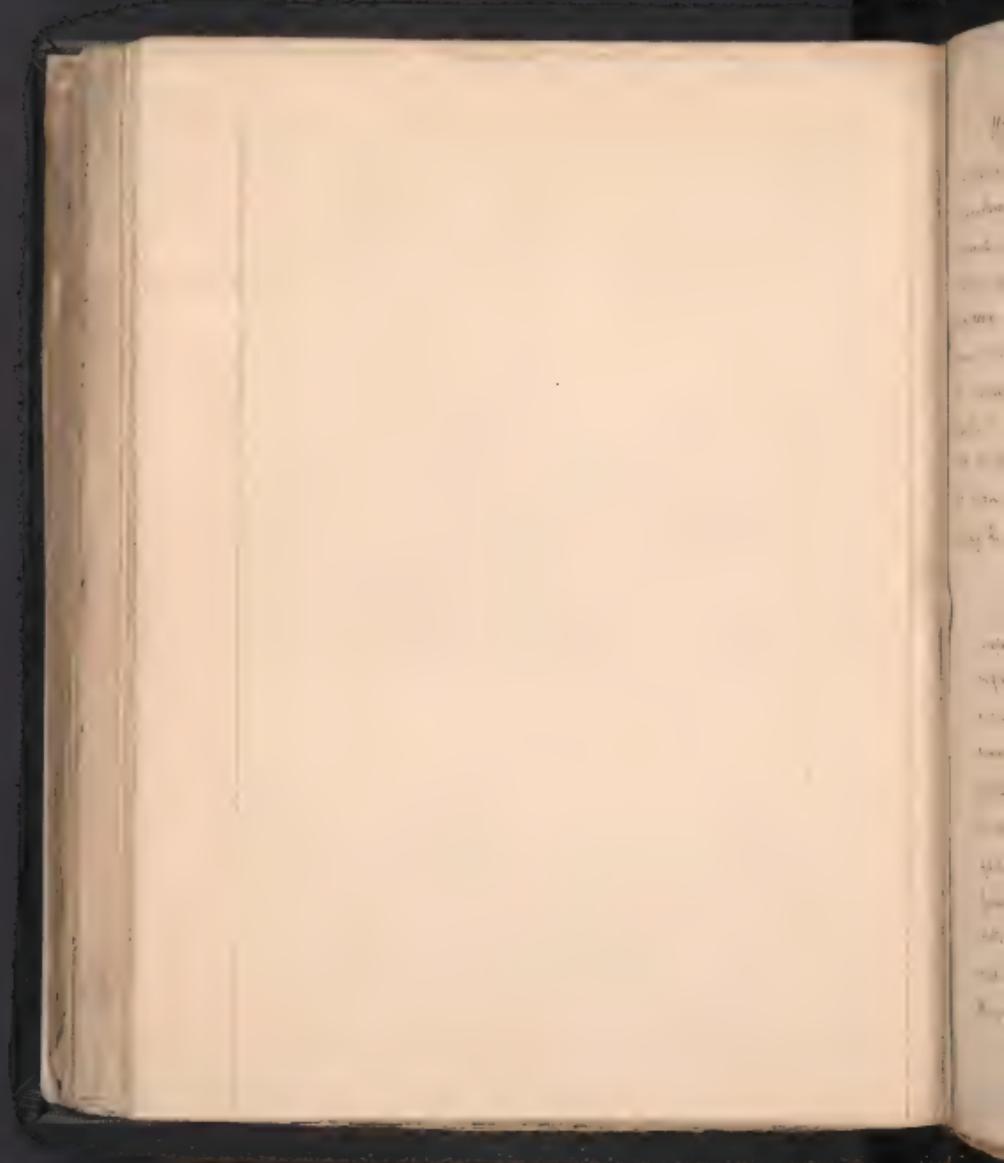
The skin is the most important organ of the body.

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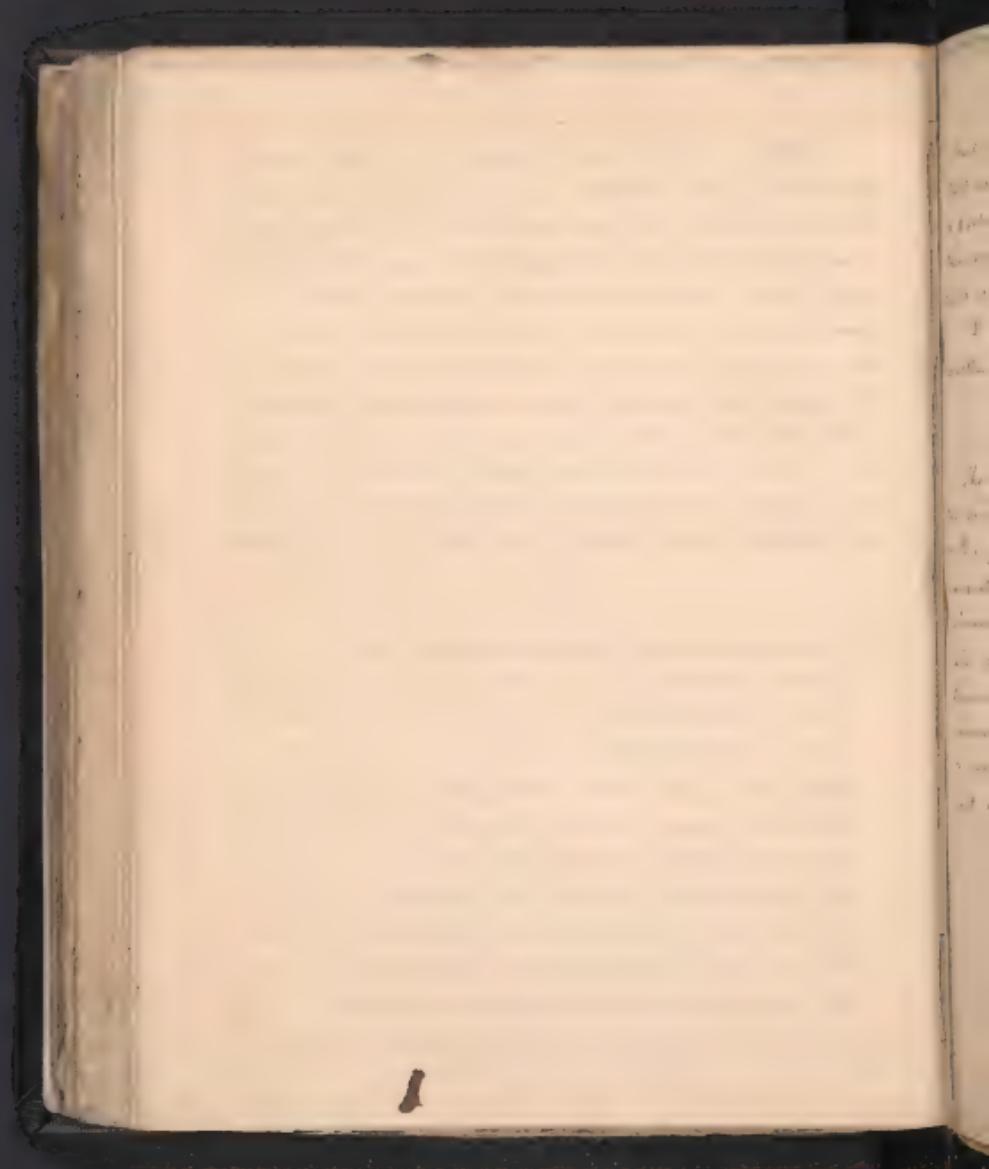
The skin is the most important organ of the body.



Upon a consideration of the especial necessity of keeping  
up the action of the cutaneous organ and of innumerable accidents  
incident not only of the conunctories but of the whole system  
and result from its stoppage, Sydenham who looked  
into the nature of diseases thus expressed himself  
indeed I am of opinion that abundance can have

destroyed by these means (viz by exposure to cold sudden  
a sudden heat &c &c the former six - cold, exposure  
etc. The man - a man who has, after just 5 hours  
of sleep or more, either a reason has left off his clothes  
soon or 2. imprudently exposed his body to the cold after  
being heated by violent exercise; whence the pores being suddenly

expanding & closing of a latent nature from the heat & con-  
sequently a heat can not be. The man who has left off his  
clothes either in suddenly, or a short time to others, at the  
same time with others. But it is necessary to be aware of this. For  
a short time. From I tell you. It is not along moment  
to leave the substance of the body. When you leave  
your clothes a moment at the time of the heat & cold  
you will find the body to be cold. But it is not so  
with respect to the skin. The body only partly loses  
and of an extreme - the substance of man and power for it  
When you leave the body the substance of man and power for it



closed and the preferable matter retained on the body  
that would otherwise have passed through them, such  
a particular kind of fever is raised in the blood as the  
then seigning constitution or the particular depravity of the  
juice is most inclined to produce.

Dr Armstrong, in his immortal poem on the  
health has very truly said

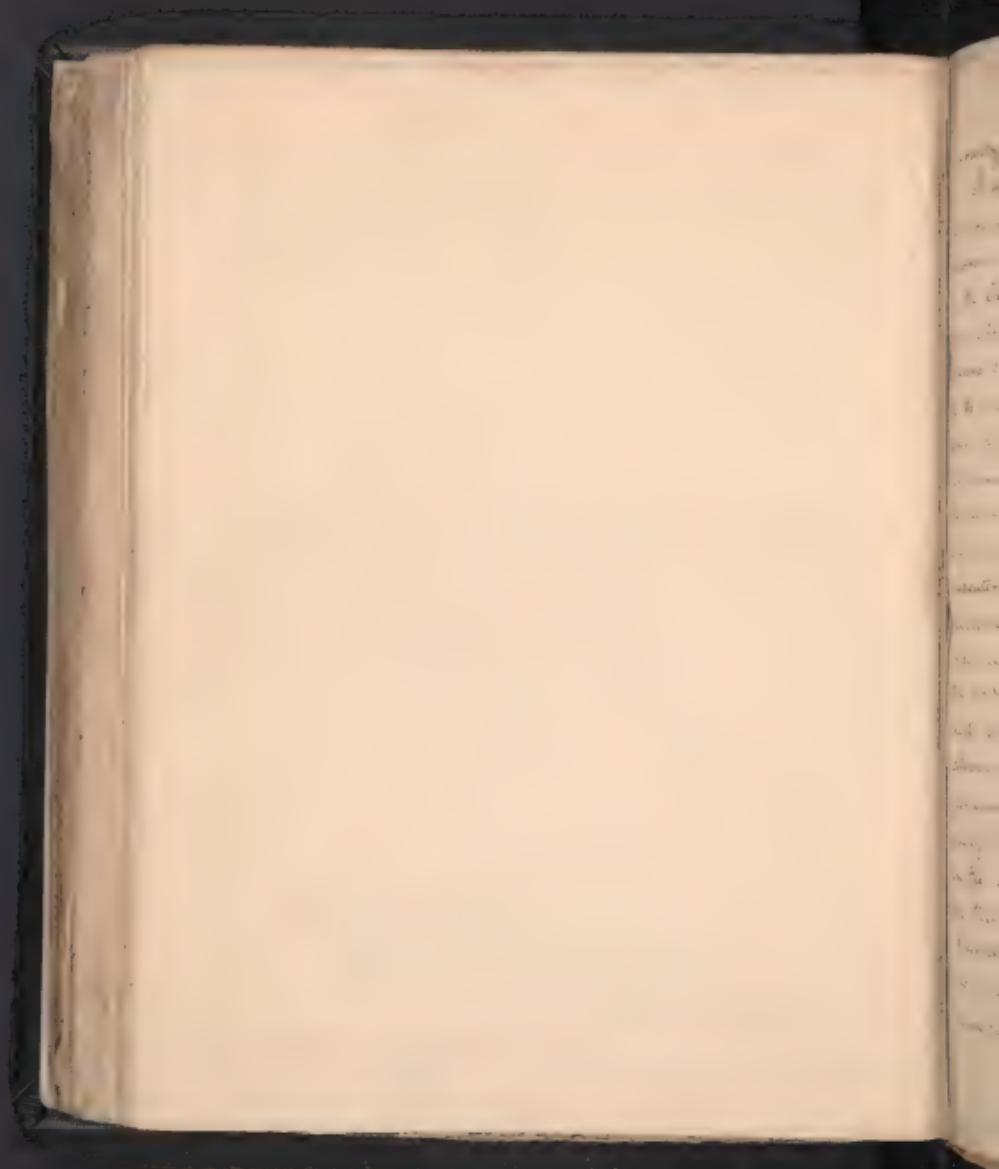
From the fatal spot

"What woes descend in such a scene

The epidemic nature of Quinsy and the other  
the inflammatory disease of 1811 and particularly  
of the pneumonitis affection has been supposed to  
consist in certain secretions over the air of the Atmos-  
phere. But I think that the main, if not greatest, of the  
air which is made over into natural salivation at  
the age of 4 weeks is an change in the  
conveniency of the air in that a child  
in any other state is not confined to a spot  
not so long over the

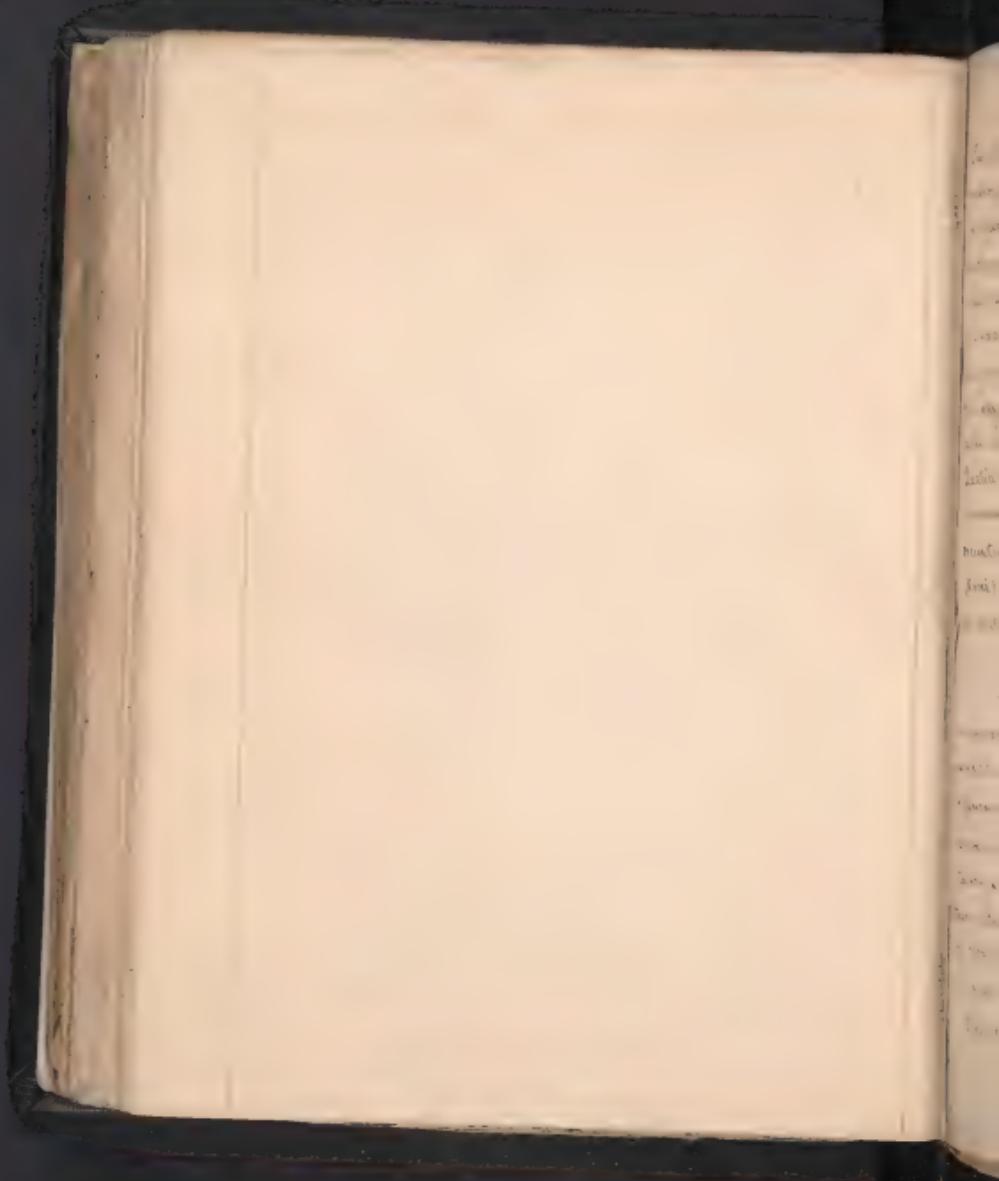
#### P. H. L. of P. T. S. T. S.

in a very small degree it is not so  
to the other side of the air the next part  
of the air for it



country for a great distance around

It seems that a sudden change from heat to cold in a dry atmosphere (and such a change is common in spring) particularly favors the production of inflammations in the nostrils, in the Throat and in the lining membrane of the lungs and Throat. While the change isn't more gradual, it may, exasperate it, it is accompanied with inclemency, doctor to the alimentary canal and sometimes to the kidneys. How ever a great deal depends on the general nature of the season and on the particular state of the system at a time, the winter is suited for in autumn a sudden return of heat will cause diarrhoea and hysterics; and the same season also favours the continuation of inflammations of heat in the alimentary canal. While in spring when the determinations of the body are centrifugal, the violent of the shower is well, and the rain seems to be most suited to an attack of disease, from this last consideration it would perhaps be serviceable to take a walk every week in spring in order to prevent inflammation in the bowels which are most apt to become敏锐 in this season. "For there are Epidemicoes Burning Fevers, and such <sup>as</sup> as are called febrile, are very much as these diseases, where the matter is so great as can never get a considerable head." (Wiffr's Hippocrate, p. 6.



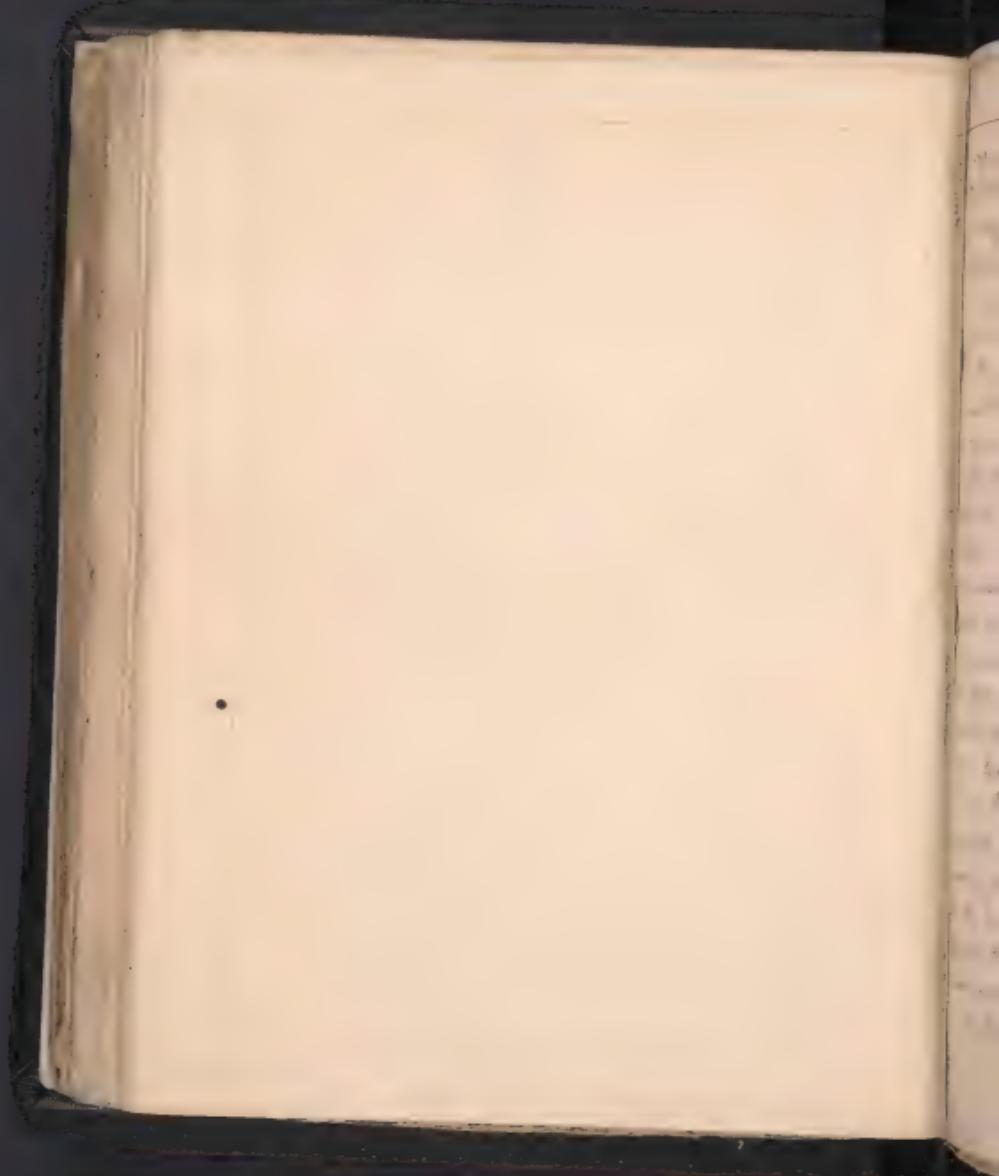
The diseases, just mentioned are most commonly caused by an alteration in the function of the skin. but they seldom occur before when the belly is loose; for in this case the perspirable matter, if prevented from going out through the pores of the skin, is ass of by the alimentary canal. So, we may learn that a suspension of perspiration will affect the lungs, alimentary canal or kidneys, according to the prevailing state of the body and to the nature of the constitution of the atmosphere.

In this subject I shall again consult the Oracle of Medicine. *Italia Tempora, Tales morborum Constitutiones — Atque, prout variaverunt Tempus, similes aut dissimiles evoluti Morbi qui in ha- orientur. Lib. 1. de Humor. Sect. 7. Conversiones Temporum Unni) maxime parvunt Morbi, et in ipsis Temporibus Magnas Mutationes Fugoris putat aut Caloris; et sic de ceteris —*

*Aphorism 1. See. 3. Lib. de Humor. 2. —*

Circumstances do not require that I should enter into a consideration of all the different states of the manifest constitution of the atmosphere in Spring and to their influence on man in the production of disease. I have only noticed particularly the effects of a sudden change in the temperature of the atmosphere, because these changes form the most striking characteristics of Spring weather and are among the most fruitful sources of the diseases which I have mentioned.

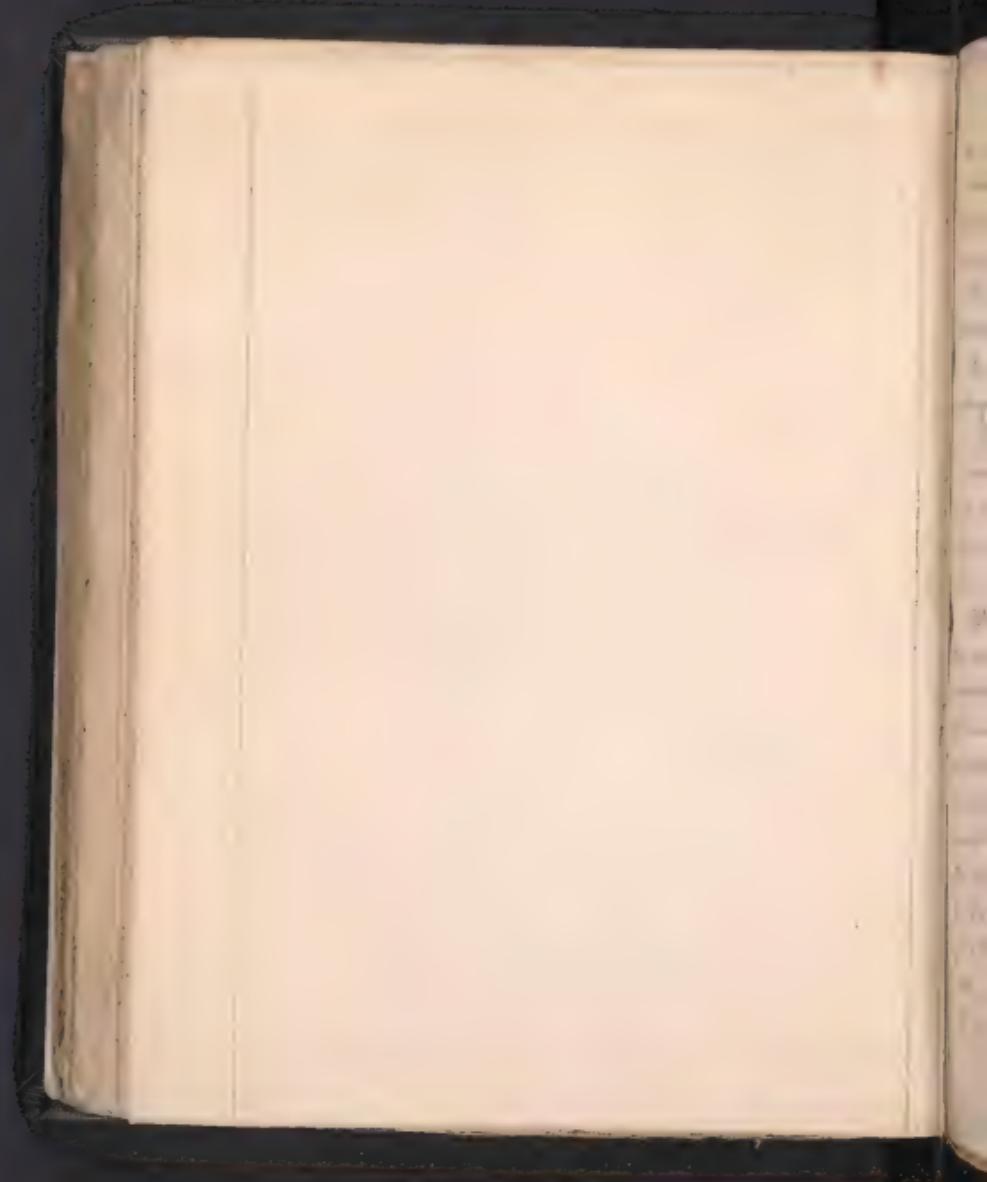
I shall now go on to make a few observations concern-



ing some other diseases which are called into existence by the nature of the season or such as have their course materially influenced by the same cause, I shall first write concerning:

**Hemorrhages.** The most abundant hemorrhage is that which is to be found in the lungs, and which is called the "cough of the hemoptysis" by the physicians, and the disease is called "hemoptysis" from the same cause. This is a very common disease, and it is not to be wondered at that it is so prevalent in this state of things, as it is a natural consequence of the disease of the lungs, which are the chief organs of respiration in the human body. The disease of the lungs, or the "cough of the hemoptysis" is also a natural consequence of the disease of the heart, by reason of the fact that the heart, which is the chief organ of the human body, is situated in the lungs.

**Ophthisis Pulmonalis.** Under this name are included all of the diseases of the lungs which are caused by the action of the heart, and which are called "hemoptysis" by the physicians. These diseases are not always the same, however, as the heart and the lungs are not the cause of the disease in the lungs, but are the cause of the disease in the heart.

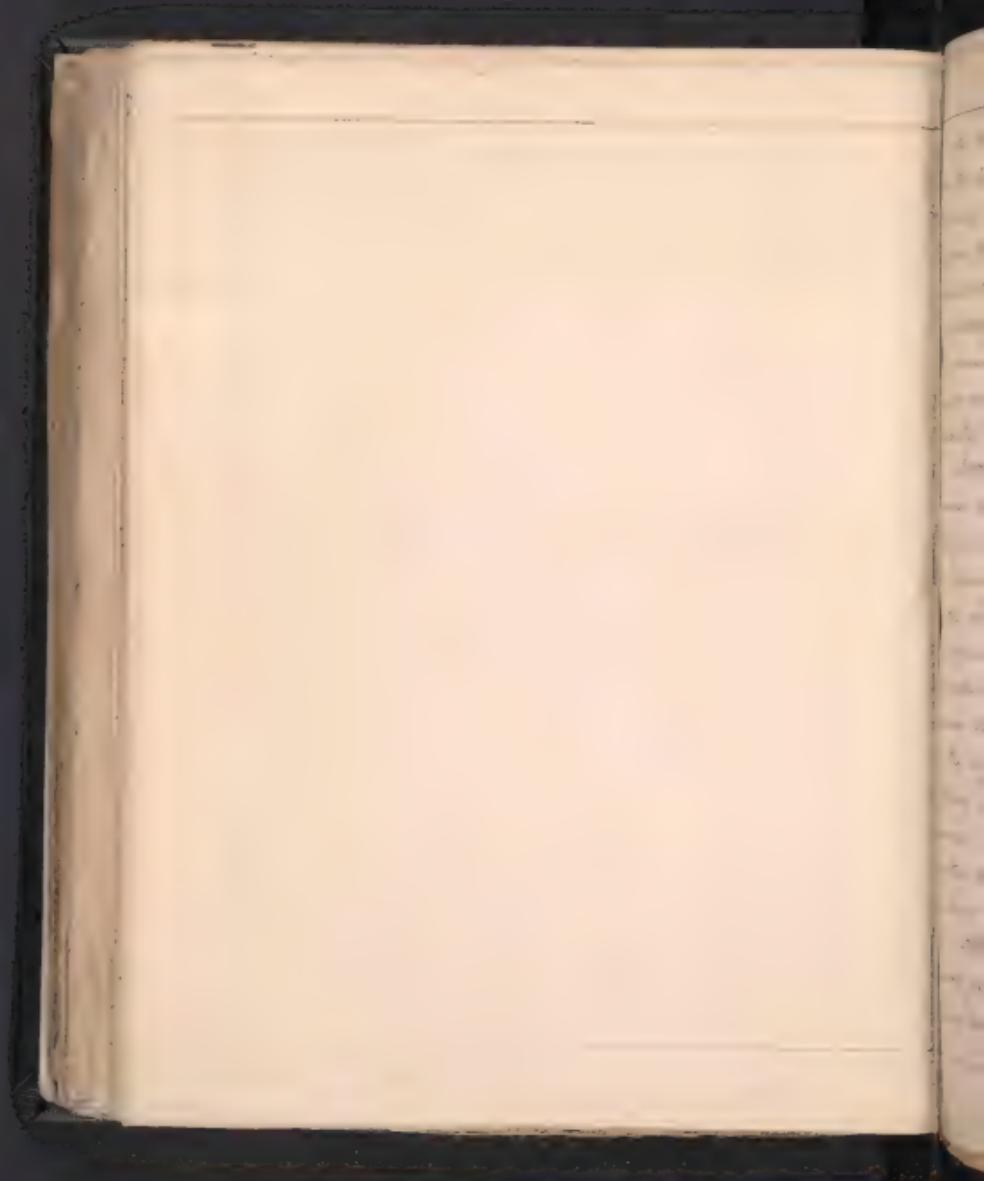


the circulation is accelerated through the disease,  
damaging tissue causing hemoptysis, rupturing the  
varieties of an abscess, or completely overpowering the exhausted  
and embolized structure of the lung.

13. Viscosities in  $0.1 \text{ M}$   $\text{Na}_2\text{SO}_4$  atmosphere producing a sudden suppression of respiration

The author on writing: *Belonging to some other influence, in the course of the evolution of the theories.*

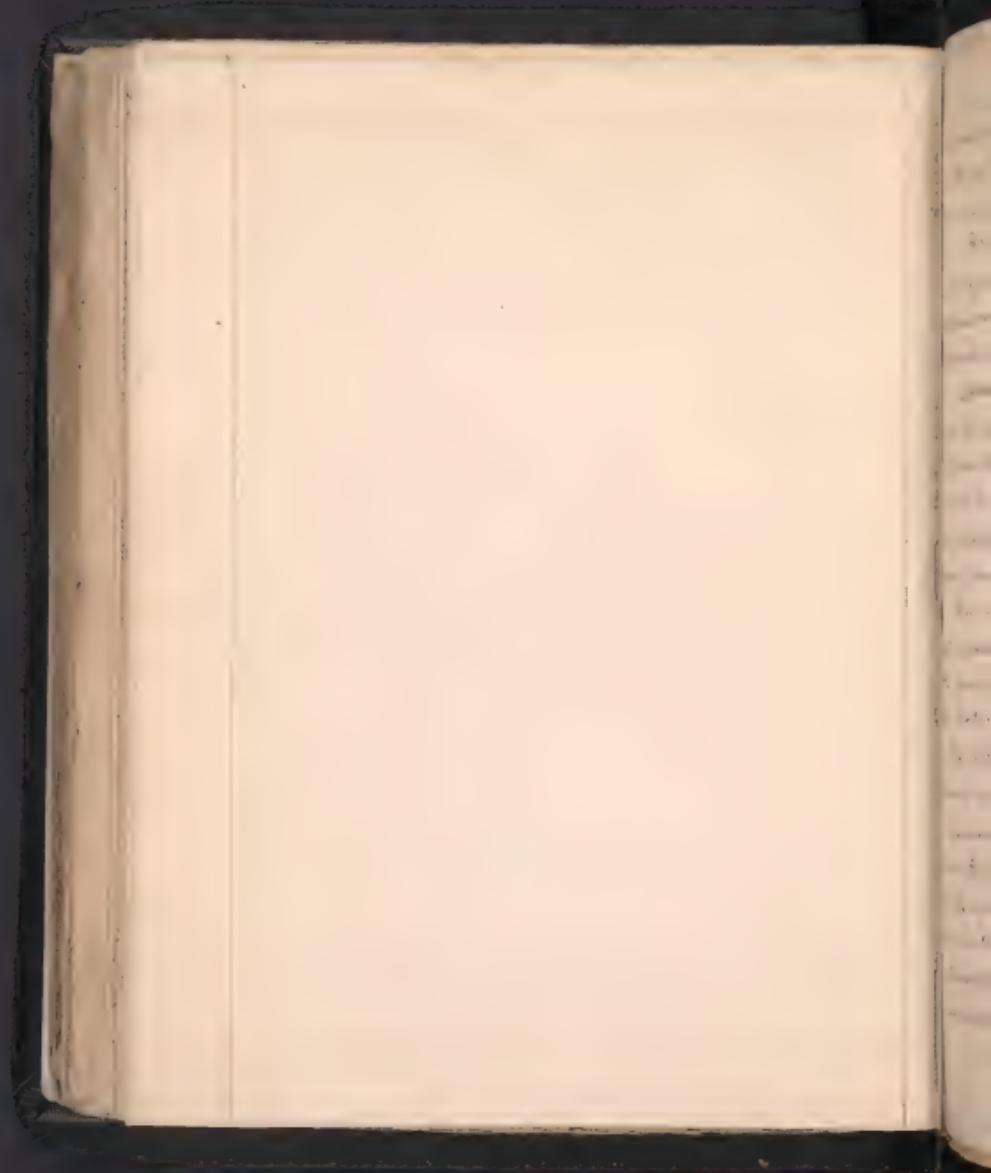
The number of registered law men was so great that the  
committee appointed to make the arrangements for the meeting  
had to be enlarged. The members of the committee were  
John C. Calhoun, John C. Breckinridge, John J. Crittenden,  
John W. Stevenson, and John W. Jones.



with ophthalmies some in the day or night, when the moon is full, as the state of the moon is said to exert its influence. The morbid cause is attributed to an increase of heat & moisture, which injure the eye and increase the secretion of the sweat, on the sensibility of which like that of common stars and of the moon is greatly increased in Spring. The action of certain stars is said by some authors to have a like noxious effect. All extraneous causes which proximally act on the eye, are liable yet to excite ophthalmia in Spring, from an other reason.

*Scorophula.* Doctor Cullen says, that the cause of this disease is usually connected with the season. He says, that the first evolution of the scrophularian humor is not to be seen in the eye, or in the nose, but in the skin, the nose, the mouth, some of which in moist years, are the first indications. But ulcers, independent of the scrophulus, report some that are visible on the nose, and one in the same season, other ulcers have in summer and heat the symptoms of disease before tell the scrophulus is come, when there can't yet be seen the disease, still the scrophulus is in latent state & the system that season much more liable to it, and a lively the disease disease.

Another. The disease called by Cullen "makes its attack most generally in the spring season and it prevails when the great heat suddenly succeeds the winter's cold."

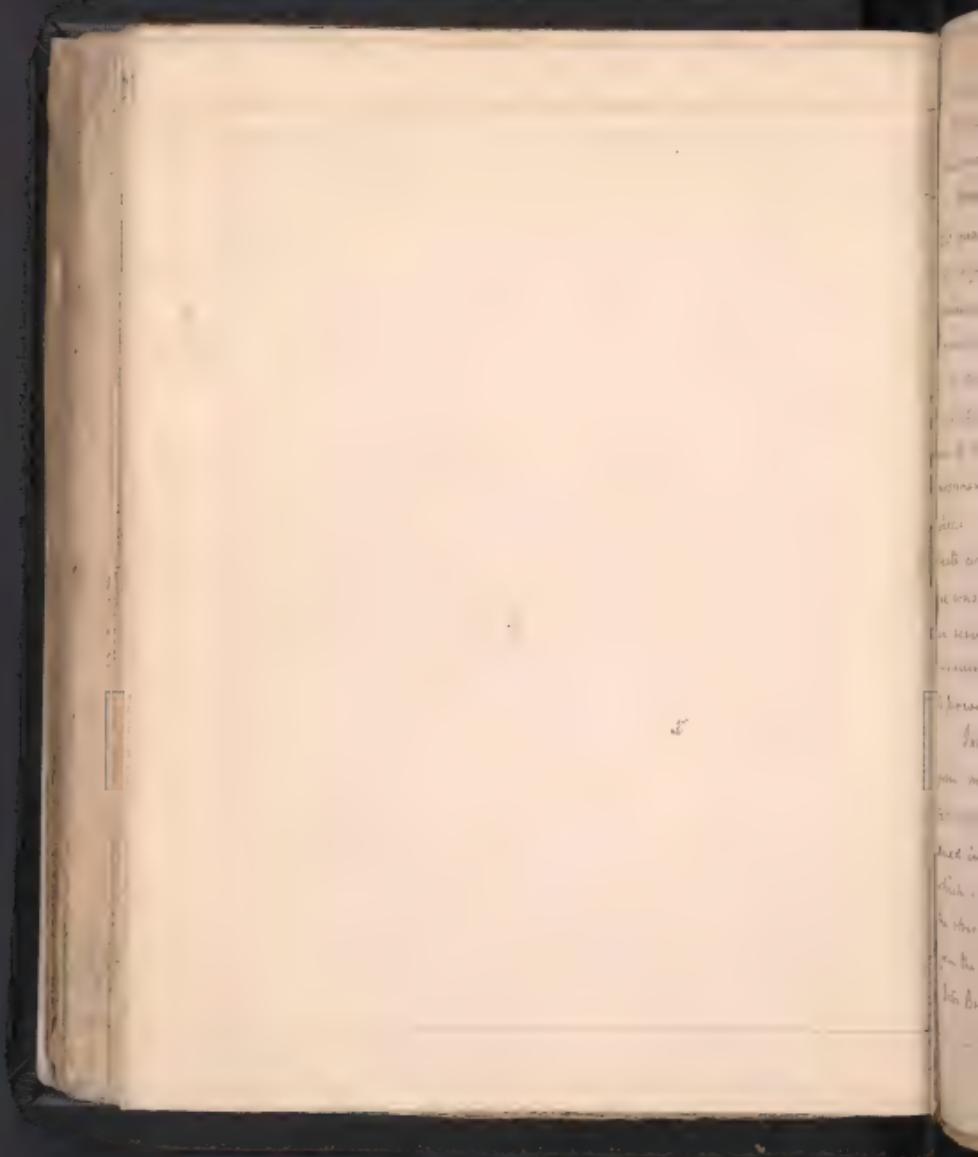


This coincides with the experience of Doctor Harkham who attributes the fact "to the warmth of the season rarefying the blood two greatly."

Rheumatism. Acute rheumatism appears very frequently in winter, especially when there are sudden and frequent fluctuations in the weather. This disease is often produced by the application of cold to the body when it is unusually heated.

Cutaneous eruptions and very many others are to be seen principally on the face. The eruptions, however, in this organ, appear chiefly in the spring of the year. I am inclined to think that leprosy and herpes are due to the worm and other cutaneous affections which we used to have there summations greatly resemble.

There is a species of itch which in some countries makes its appearance in the heat of the summer in the spring of the year. This fact gives some probability to the opinion that this loathsome affection is produced from an effluvium generated by the sun - returning warmth on the filth accumulated in winter - past or the time very remote, from a minute or animalcule produced by the excited sun. Dr. Harkham expresses it as his opinion that the itch in spring is often generated by a subspecies of mosquito. He also thinks that these are certain exhalations of the body which favor the propagation of cutaneous eruptions.



Morbid secretions of the sebaceous glands, forming small black topped tumours on the surface of the skin, are very common in this season.

Paroxysmal Intermittents. In Spring Doctor Huxham informs us that quotidian, semi-tertian and tertian fevers are frequently very ripe and contemporaneous with epidemic Malaria, leprosy, scrofulae and inflammatory rheumatism. From this we would conclude that the same procalcular causes were concerned in the production of all these diseases. The last mentioned of which it is now generally allowed, are called into existence by sudden vicissitudes in the temperature of the atmosphere. So it would seem probable, that the same cause which would excite a Malaria in one, might in another induce an intermission. The disease of course appears and consequently manifesting different symptoms. All this can result from the different constitutions of men and the prevailing state of the body at the time the morbid cause exists.

Intermittents are often produced by microscopical exhalations from marshes and we have the greatest reason to believe that a part of those which prevail in autumn are produced in this way. There are also certain exhalations which are the cause of intermission, but I incline to the opinion that the disease must receive its name from the action of the sun, cold to the body. Doctor Brown in a Letter to the Royal Society in 1727

climat &

at left lower

10000 ft ab

is constant

at 10000 ft

is nearly so

at 10000 ft

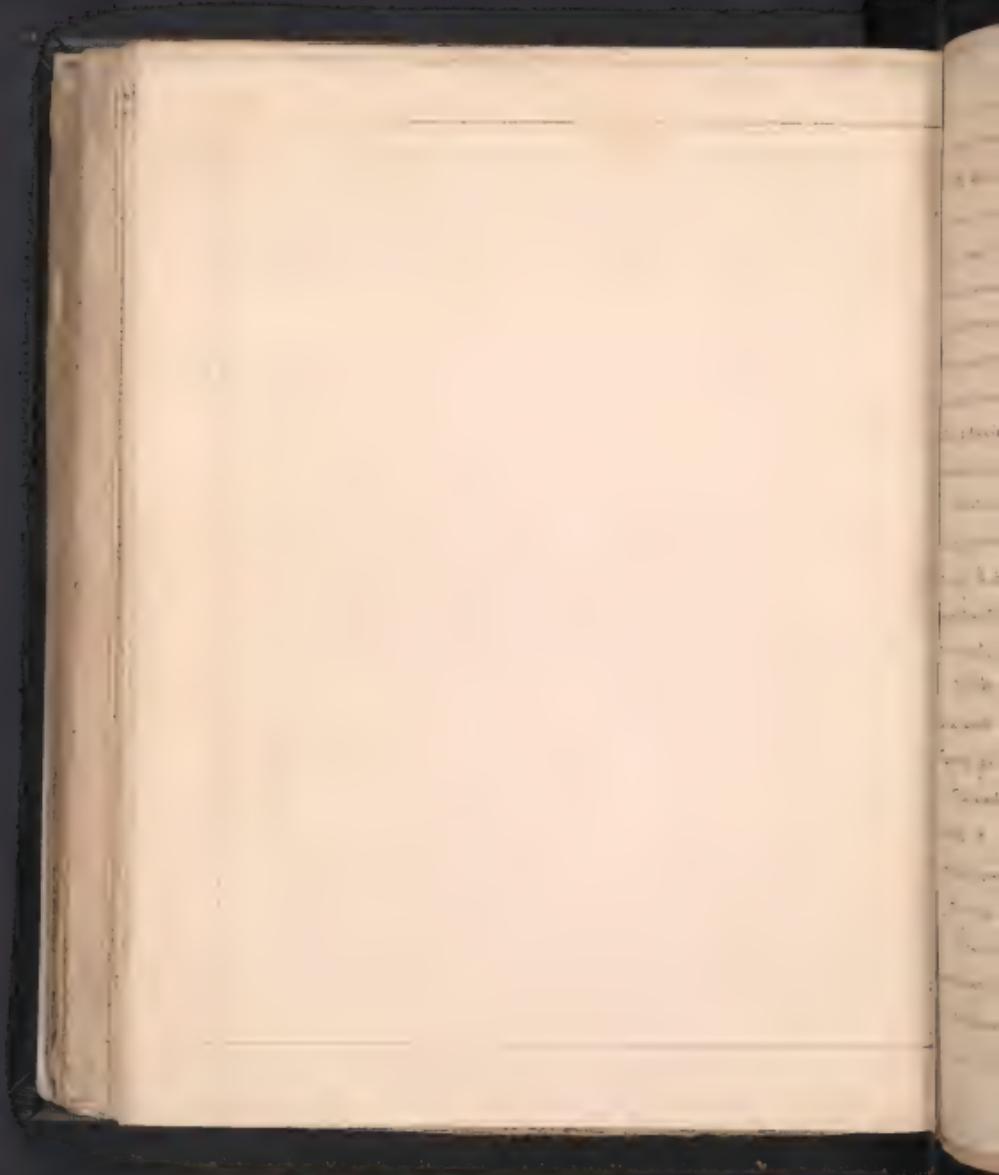
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at 10000 ft

of the several inter-molts which prevail in certain parts of Scotland have their origin in sudden changes in the state of the weather. Here are my observations concluded concerning the origin and course of certain diseases in Spring. I shall now finish the whole subject by enumerating some other sources from which Epidemic Diseases may be derived.

1. Invisible Effluvia from the bowels of the earth. Did we credit the ancient writers of antiquity we should attribute many diseases to emanations from this source. In modern conjecture on this subject we have no reason to believe ourselves nearer the truth than the ancients. For as yet the origin of many epidemics is a profound secret. However if morbid effluvia could issue from the bowels of the earth & impregnate the atmosphere there is no season during which there would be a safer season of law & order than in Spring. For now the various bowels of the earth are unlocked and many torpid gases which the frost of winter had confined, find their way out. That these gases may have noxious qualities is probable; for there are many subterranean substances, from which they might obtain a deleterious taint.

2. Clearing Lands. This is a very common operation of the farmer in the Spring of the year. Trees whose interwoven boughs will exclude the admittance of the sun's beams at its upper branches with the thick growth of underwood are felled and removed. The moist soil



What is the cause of these various changes in the make-up of the fauna? What are the causes of these local fluctuations? What is the cause of the general increase in the number of species? What is the cause of the general increase in the number of individuals? What is the cause of the general increase in the number of species? What is the cause of the general increase in the number of individuals?

3. Water. ~~More in this common than~~ ~~in the springs~~  
and wells contain force a company don't want to give time for  
they are fed by water which results from the decomposition of  
matter in the earth, carrying along traces of the same, with  
which it was in a state of congelation and by rains  
which percolate through strata of water-soluble vegetable  
matter and beds of minerals.

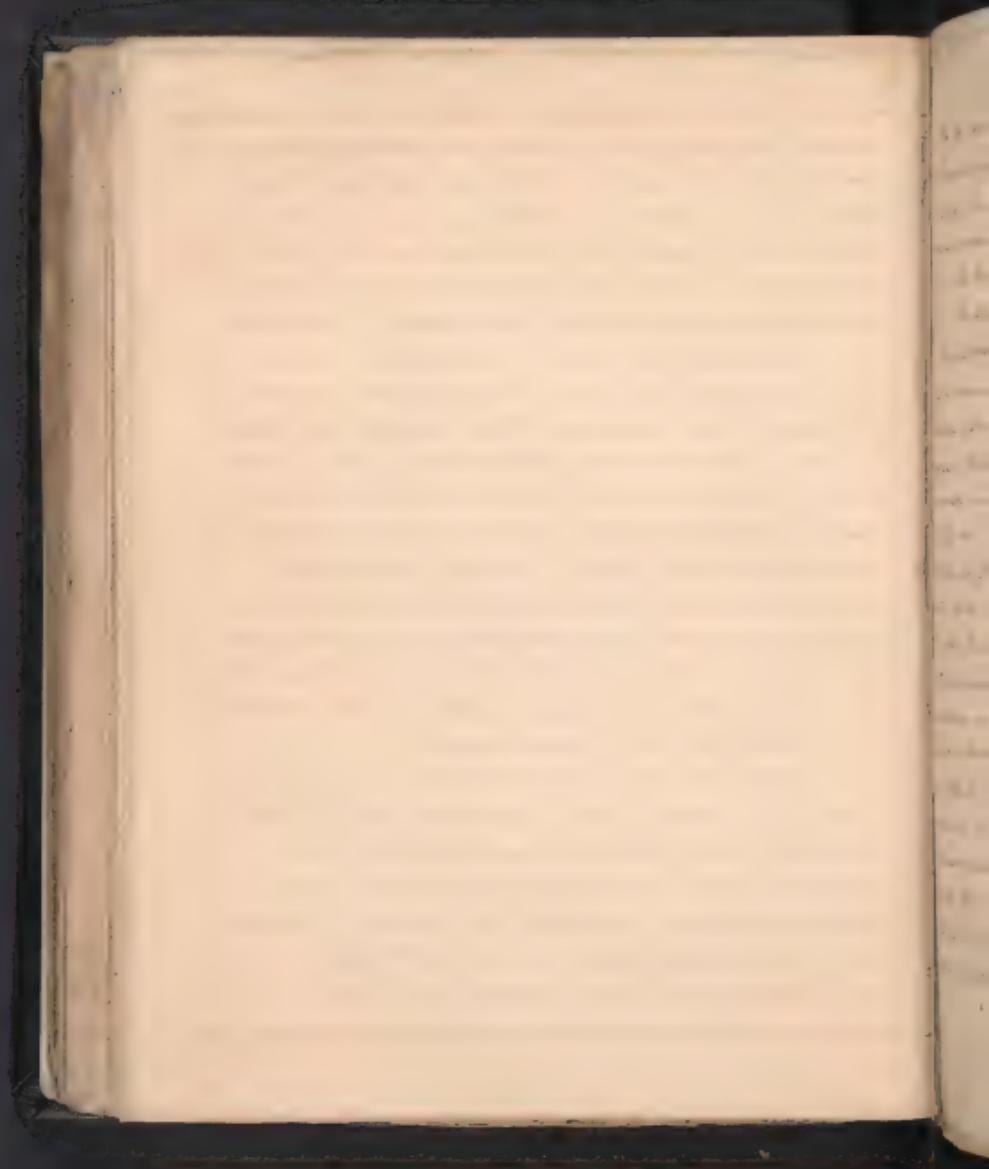
The nature of the disease which follows the bite of any Leptothrix water snail may well be as follows:



we very soon come into the stomach the delicate  
mucilous membrane is exposed to various vessels fed by any humor  
which is noxious, it would seem that disease from this source  
is the commonest. Dr. C. L. Lee in his "Principles of Medicine"  
writes "Water is frequently impregnated by excretory articles  
and Hippocrates remarks that "the share which the water we  
drink has in the affair of health is great."

b. Emanations from certain Plants. Many vegetable physiologists call plants the scavengers of the atmosphere, from their  
natural power of absorbing the foul portions of the air and  
giving it a purer and more odoriferous condition. But it seems  
evidently evident that there are some belonging to the narcotic  
tribe endowed with the power of throwing out into the  
atmosphere noxious effluvia. For the air which is impregnated  
by a field of poppies produces an opiate effect and the Bosphorus of the sea of Marmara is impregnated  
with such large emanations as to render the atmosphere  
of the air to be one of the causes.

The opium plant with its poppy is not the only plant  
possessing an influence over a particular district of the  
atmosphere which may have an effect. The  
influence of the atmosphere of a place mentioned  
as a circumstance set down by Dr. S. Atwater *Stramonium*  
or Monk Head which grows in  
to allow the belief that this  
plant sometimes, by its narcotic effluvia injures health.



In the month of May 1816 as I was travelling through the Territory of Indiana it happened that I stopped for the night, in a small village. In a very comfortable and neat house where I lodged there were two children severely afflicted with the intermittent fever. In the morning I was desirous to enquire into the cause of this fever. No sudden change had occurred in the atmosphere previous to the commencement of their attack, nor could I discover any fresh cleared ground, any marsh, or any other source from which evolutions capable of producing this disease usually arise. My attention was soon arrested by a small field almost covered with the luxuriant growth of the stink weed, a plant which in this country springs from the earth about the last of April or first of May and delights in a soil rich and abundant with filth. I immediately recollect an opinion of the late Doctor Barton<sup>t</sup> on this subject which combined with every other circumstance induced me to believe that the disease in question was most probably caused by the influence of this weed (whose narcotic qualities are well known) on the atmosphere in which the patient lived. I have been strengthened in this opinion by several cases of a similar nature which have since come under my observation, and from ascertaining to the fact that the healthiness of a particular section of the country is frequently pointed out by the nature of the plant which grows there. Nor do I attribute all this to the plants, for their growth in certain places

<sup>t</sup> *Vita Barton's Medical and Physical Journal*. Vol. 1. p. 145.



depends on the composition of the soil, yet from this source also is their nature in a great measure derived.

5. Vernal Floods. Most of those rivers which have their source in mountainous regions and roll through an extensive country before they reach the sea are subject to severe inundations. Their waters hold in heterogeneous mixture every species of filth, which the rapidity of the current loosened from the bottoms of their channels, from adjacent marshes on which was swept by tributary streams from neighbouring farms. This is deposited in the form of slime on the country which is overflowed. The sun exercises on this mixture of moist filth a power sufficient to generate the seeds of disease which are volatilized and ascend to enter into the constitution of the atmosphere.

Benjamin Tompkins

